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1899/1900

CORNELL UNIVERSITY,

COLLEGE OF AGRICULTURE.

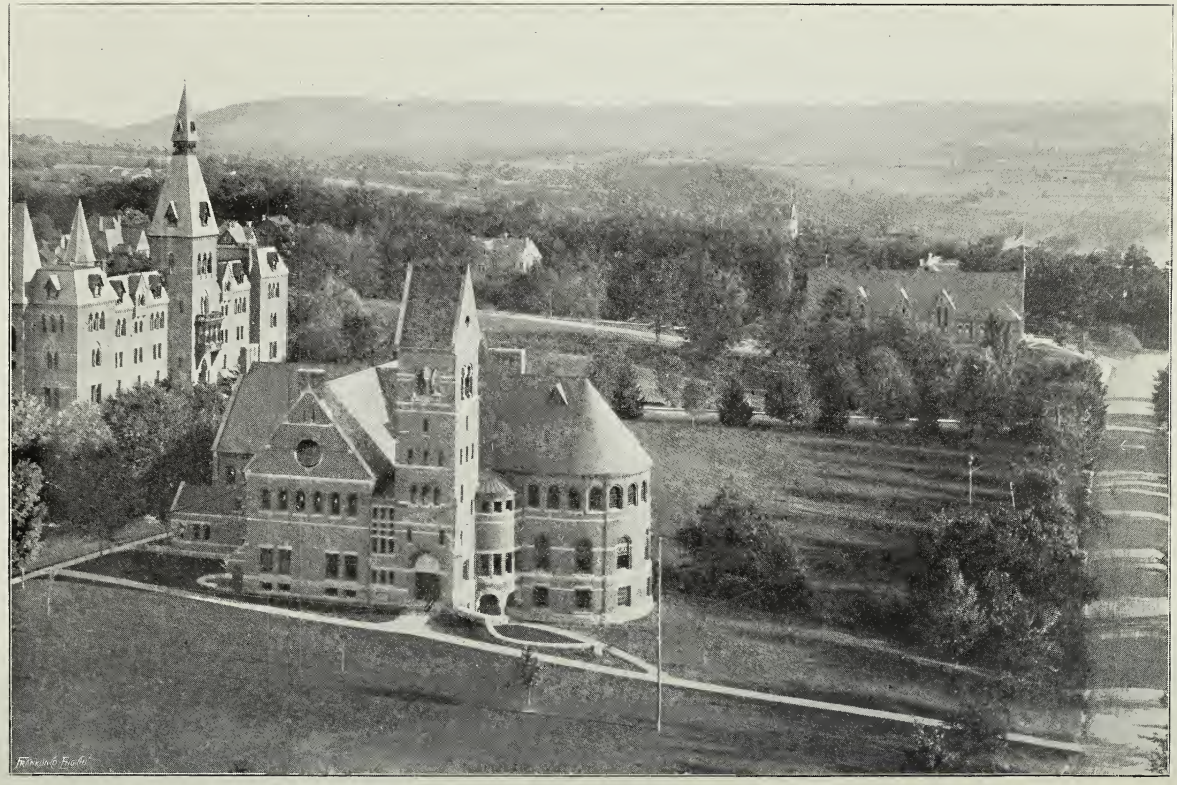
THE GENERAL COURSES IN AGRICULTURE

THE WINTER COURSE IN AGRICULTURE

AND THE DAIRY COURSE.

ANNOUNCEMENT, 1899—1900.

ITHACA, N. Y.
PUBLISHED BY THE UNIVERSITY.



SOUTH-EAST PORTION OF CAMPUS.

THE COLLEGE OF AGRICULTURE.

FACULTY.

JACOB GOULD SCHURMAN, A.M., D.Sc., LL,D., President.

ISAAC PHILLIPS ROBERTS, M.Agr., Dean of the Faculty of Agriculture, Professor of Agriculture, Director of the College of Agriculture and Experiment Station.

GEORGE CHAPMAN CALDWELL, B.S., Ph.D., Professor of Agricultural and General Chemistry.

JOHN HENRY COMSTOCK, B.S., Professor of Entomology and General Invertebrate Zoölogy.

LIBERTY HYDE BAILEY, M.S., Professor of General and Experimental Horticulture.

HENRY HIRAM WING, M.S., Assistant Professor of Animal Industry and Dairy Husbandry.

MARK VERNON SLINGERLAND, B.S., Assistant Professor of Economic Entomology.

THE AGRICULTURAL COLLEGE AND STATION COUNCIL.

JACOB GOULD SCHURMAN, President of the University.

FRANKLIN C. CORNELL, Trustee of the University.

ISAAC P. ROBERTS, Dean of the College and Director of the Experiment Station.

EMMONS L. WILLIAMS, Treasurer of the University.

LIBERTY H. BAILEY, Professor of Horticulture.

JOHN H. COMSTOCK, Professor of Entomology,

OEFICERS OF THE STATION.

I. P. ROBERTS, Director.

E. L. WILLIAMS, Treasurer.

E. A. BUTLER, Clerk.

OTHER OFFICERS OF INSTRUCTION AND ADMINISTRATION.

JAMES LAW, F.R.C.V.S., Veterinary Science.
GEORGE FRANCIS ATKINSON, Ph.B., Botany.
SIMON HENRY GAGE, B.S., Anatomy.
WILLARD WINFIELD ROWLEE, D.Sc., Plant Histology,
LOUIS ADELBERT CLINTON, B.S., Assistant Agriculturist.
GEORGE WALTER CAVANAUGH, B.S., Assistant Chemist.
*BENJAMIN MINGE DUGGAR, M.S., A.M.. Ph.D., Assistant Cryptogamic Botanist.
WILLIAM ALPHONSO MURRILL, A.M., Assistant Cryptogamic Botanist.
ALEXANDER DYER MacGILLIVRAY, Assistant in Entomology.
ABRAHAM LINCOLN KNISELY, M.S., Assistant in Chemistry.
WALTER W. HALL, Assistant in Cheese Making.
WEBSTER EVERETT GRIFFITH, Assistant in Butter Making.
HUGH CHARLES TROY, B.S.A., Assistant in Dairy Laboratory.
JOHN WALTER SPENCER, Deputy Chief of Extension Work.
JOHN LEMUEL STONE, B.Agr., Assistant in Agriculture.
MARY FARRAND MILLER, *née* ROGERS, B.S., Instructor in Nature Study.
GEORGE NIEMAN LAUMAN, B.S.A., Instructor in Horticulture.
LEROY ANDERSON, M.S. in Agr., Assistant in Dairy Husbandry.
ARCHIBALD ROBINSON WARD, B.S.A., Assistant in Dairy Bacteriology.
HARRIS PERLEY GOULD, M.S.A., Assistant in Charge of Spraying Experiments.
ALICE GERTRUDE McCLOSKEY, Matron Junior Naturalist Clubs.
GEORGE WALTER TAILBY, Farm Foreman.
CHARLES ELIAS HUNN, Gardener.
EDWARD ARTHUR BUTLER, Clerk.
JULIA ZITA KELLY, Stenographer—Extension Work.
LIZZIE VERONICA MALONEY, Stenographer—Experiment Station.

The College of Agriculture comprises the Departments of General Agriculture; Animal Industry and Dairy Husbandry; Horticulture and Pomology; Agricultural Chemistry; General and Economic Entomology; the Agricultural Experiment Station, and University Extension Work in Agriculture.

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*Absent on leave.

EQUIPMENT.

The University grounds consist of 270 acres of land, bounded on the north and south by Fall Creek ravine and Cascadilla Gorge respectively. One hundred and twenty-five acres of the arable land are devoted to the use of the Agricultural Department. This part of the domain is managed with not only a view to securing profit, but also to illustrate the best methods of general agriculture. A four years' rotation is practiced on the principal fields; one year of clover, one of corn, one of oats or barley, and one of wheat. A dairy of twenty cows, a flock of sheep, some fifteen horses and colts, and other live stock are kept upon the farm. Nearly all of these animals are grades, bred and reared with the single view of giving object lessons which can be practiced with profit by the students on their return to their homes. A four-story barn provides for housing all the animals, machinery, tools, hay, grain, and manures. The stationary thresher, feed-cutter, chaffer, and other machinery are driven by steam power. The barn also furnishes many facilities for carrying on investigations in feeding and rearing all classes of domestic animals.

The barn is also furnished with a well equipped piggery and tool house. Not far from the main barn have been constructed four buildings with suitable yards and appliances for incubating eggs and rearing domestic fowls.

The agricultural class room is provided with a collection of grains and grasses, implements of horse and hand culture, and various appliances for carrying on instruction and conducting investigation. The whole plant is managed with a view to the greatest economy consistent with the greatest efficiency in imparting instruction.

THE DAIRY BUILDING, a two-story stone structure, 45x90 feet, was built from an appropriation of $50,000 by the Legislature of 1893. It provides lecture rooms, laboratories, and offices, besides two large rooms for butter and cheese making, both of which are fully equipped with modern machinery and appliances. Automatic electrical apparatus for controlling the temperature in cheese-curing rooms, refrigerator room, lockers and bath rooms are also provided. The whole building is thoroughly heated and ventilated, and power is furnished by a sixty horse-power boiler and a twenty-five horse-power Westinghouse engine.

THE AGRICULTURAL MUSEUM occupies rooms on the second floor of Morrill Hall. It contains: 1. The Rau Models, being one hundred and eighty-seven models af plows made at the Royal Agricultural College of Würtemberg, under the direction of Professor Rau, and arranged and classified by him for the Paris Exposition of 1867. 2. Engravings and photographs of cultivated plants and animals, obtained at the various agricultural colleges of Europe. 3. A collection of the cereals of Great

Britain, being a duplicate of that in the Royal Museum of Science and Art at Edinburg, presented by the British Government. 4. A collection of agricultural seeds. 5. A large number of models representing a great variety of agricultural implements. The class room has been provided with special sets of diagrams and other appliances designed to illustrate the lectures on agriculture.

The agricultural library contains files of bulletins and reports from the experiment stations of the United States and Canada; it has also a file of the publications of the U. S. Department of Agriculture. The leading works on agriculture are on the shelves. The exchange list includes the principal agricultural periodicals published in this country.

THE HORTICULTURAL DEPARTMENT EQUIPMENT comprises about ten acres of land variously planted, forcing houses, and a museum.

The gardens and orchards contain the fruits which thrive in the north in considerable variety, and in sufficient quantity to illustrate methods of cultivation. Nursery grounds are also attached, in which are growing many species of economic plants from various parts of the world. The fruits comprise something more than sixty varieties of grapes, over fifty of apples, fifty of plums, and other fruits in proportion. A dwarf pear orchard of 300 trees, and other representative orchards, comprise the remainder of the field space, excepting such as is set aside for vegetable gardening and floriculture. There is also a collection of one hundred varieties of hardy roses and various other ornamental and interesting plants.

The forcing-houses are eight in number and cover about 6,000 square feet of ground. These, in connection with store-rooms and pits, afford excellent opportunities for nursery practice, for the study of the forcing of all kinds of vegetables and for some kinds of floriculture. A laboratory with space for forty students, is used for instruction in propagation of plants, pollination, and the commoner green-house operations. There is also a mushroom house 14x80 feet and a reading room for horticultural students.

The museum comprises two unique features—the garden herbarium and the collection of photographs. The herbarium, which is rapidly assuming large proportions, containing at present over 11,000 sheets, is designed to comprise all varieties of all cultivated species of plants, and it is an indispensable aid to the study of garden botany and the variation of plants. The collection of photographs comprises over 5,000 negatives, with prints representing fruits, flowers, vegetables, illustrative landscapes, glass houses, and horticultural operations. A very large collection of machinery and devices for the spraying of plants is at the disposal of students. Charts and specimens in some variety complete the museum and collection.

The library has files of many of the important horticultural and botanical periodicals and a good collection of general horticultural literature.

The Entomological Cabinet contains, in addition to many exotic insects, specimens of a large proportion of the more common species of the United States. These have been determined by specialists, and are accessible for comparison. The collection includes many sets of specimens illustrative of the metamorphoses and habits of insects. The laboratory is also supplied with a large collection of duplicates for the use of students and is equipped with microscopes and other apparatus necessary for practical work in entomology.

The insectary of the Agricultural Experiment Station affords facilities to a limited number of advanced students for special investigations in the study of the life history of insects, and for experiments in applied entomology.

The Chemical Department is housed in a three-story brick building 126 feet in length and of an average width of 60 feet. The Department is liberally equipped with various appliances necessary to give instruction to four hundred students in General and Agricultural Chemistry.

ADMISSION TO THE FOUR YEARS' COURSE LEADING TO THE DEGREE OF BACHELOR OF THE SCIENCE OF AGRICULTURE.

(*For admission to Special and Winter Courses see page 18.*)

CONDITIONS OF ADMISSION.

Candidates must be at least *sixteen* years of age, or, if women, *seventeen*. They must have certificates of good moral character, and students from other colleges or universities are required to furnish from those institutions certificates of honorable dismissal.

Candidates for admission must file their credentials and obtain permits for examination at the Registrar's office. The results of examinations may be ascertained from the Registrar.

The following subjects are required for admission: English, Geography, Physiology and Hygiene, History [the student must offer two of the four following divisions in history, (a) American, (b) English, (c) Grecian, (d) Roman]. Plane Geometry, Elementary Algebra and either A, B, or C, as below.

A. Greek and Latin.

B. Latin and either Advanced French or Advanced German.

C. Advanced Frence, Advanced German and Advanced Mathematics.

An equivalent of any one of the three groups, A, B and C, may be offered, provided five counts are offered. Latin counts 3, Greek, French and German 2 each. Advanced Mathematics (Solid Geometry, Advanced

Algebra, Plane and Spherical Trigonometry) 1, provided, however, that the student before graduation must have passed in one modern language and in advanced Mathematics if they were not offered for entrance.

An alternate requirement instead of Advanced Mathematics may be offered in Physics, Chemistry, Botany, Geology and Zoölogy.

[*For details as to subjects and methods of admission see University Register pages 33–72.*

For admission to the freshman class communications should be addressed to the Registrar. See University Register pages 33–52.

For admission to advanced standing from other colleges and universities all communications should be addressed to the Director of the College of Agriculture. See University Register pages 52–53.

For admission to graduate work and candidacy for advanced degrees, communications should be addressed to the Dean of the University Faculty. See University Register pages 64–72,

ADMISSION WITHOUT EXAMINATION.

I. ON THE REGENTS' DIPLOMA.

Diplomas issued by the Regents of the University of the State of New York are accepted in the place of examination in all the subjects required for entrance which are covered by such diplomas, including upon the recommendation of the University departments concerned, the subjects of French and German. A statement from the teacher giving in detail the work done and the proficiency attained in these two subjects must be submitted by the holder of the diploma.

Certificates and pass cards issued by the Regents are not accepted unless they are presented by the holder of a Regents' Diploma.

To secure exemption from the entrance examination in English (see page 9), the diploma must cover eight academic English counts, including English Composition, or three full years of the English course established by the Regents, February, 1893.

Application for credit in all subjects for which credit is desired, must be made at the time of the admission of the applicant, and not be postponed to any later date in his course.

Diplomas and statements should be sent by mail to the Registrar before the opening of the term.

II. ON CERTIFICATE.

The following rules and regulations have been adopted by the Faculty of Cornell University on the subject of admission by certificate :

1. Certificates of work done in public or private schools, in or out of the state, will not be accepted in lieu of examinations, unless the applicant has

completed a full course in the school, and has been duly graduated after at least one year in the school, and the University authorities are satisfied regarding the standing of the school.

2. The application for the admission of a student by certificate must be made by the principal of the school and not by the candidate himself.

3. The application from the principal must be accompanied by full and specific information with regard to the completeness and thoroughness of the studies and course in which instruction is given. In case a catalogue or circular is published, a copy thereof should also be furnished.

4. Certificates from schools whose students prove to be imperfectly fitted will ultimately not be considered.

5. Subjects in which an examination has been passed for admission to the school, may be included in the certificate, but in all cases the full information called for by the blank should be given.

6. *No school certificate will be accepted in place of entrance examination in English* (*see pages 7 and 9.*)

7. The committee having charge of the acceptance of certificates may meet at any time during the collegiate year, but the certificate should be forwarded as soon after the graduation of the student as is possible, and at least as early as the first of September.

8. The University does not engage in advance to accept the certificates of any school, and the previous acceptance of such certificates merely raises the presumption that similar certificates may be accepted again, but does not establish a permanent right to such acceptance.

Application for credit in all subjects for which credit is desired, must be made at the time of the admission of the applicant, and not be postponed to any later date in his course.

All communications on this subject and all certificates must be addressed to the Registrar, from whom also blank forms for certificates may be obtained.

ADMISSION ON EXAMINATION.

Examinations in all the subjects required for admission to the University are held *at Ithaca only*, twice in the year as follows: 1. In June, at the end of the spring term; 2. In September, at the beginning of the fall term. No examination of candidates for admission will be held at any other time or place. In 1899 these examinations will begin on Friday, June 16 and Tuesday, September 19. Specimen copies of examination papers will be sent on application to the Registrar.

INSTRUCTION.

PLAN OF INSTRUCTION.

The instruction in the College of Agriculture is comprised in the following general lines:

The Regular Course in Agriculture covers a period of four years. It is designed to afford an education as broad and liberal as that given by other departments of the University, and leads to the degree of Bachelor of the Science of Agriculture, (B.S.A.)

THE COURSE IN AGRICULTURE

LEADING TO THE DEGREE OF BACHELOR OF THE SCIENCE OF AGRICULTURE.

Freshman Year	No. Course.	1st Term.	2d Term.	3d Term.
Botany	1, 2	3	3	3
Invertebrate Zoölogy	1, 3	3 Eco. Entom	3 Gen. Entom	3
English	1	3	3	3
Freehand Drawing	1	2	2 Linear Drawing	3
Chemistry	1	3	3	3
Hygiene	1	1	–	–
Military Drill	1	2 Phys. Train.	4 Military Drill	2

Sophomore Year.	No. Course.	1st Term.	2d Term.	3d Term.
English	2	2	2	2
Physics	2a	2	2	2
Agricultural Chemistry	16	4	4	4
Political Economy	51	3	3	3
Phys. of Animals	—	1	1	1
Military Drill	1	2	–	2
Elective	—	1	4	4

Junior Year.	No. Course.	1st Term.	2d Term.	3d Term.
Elective	–	15–18	15–18	15–18

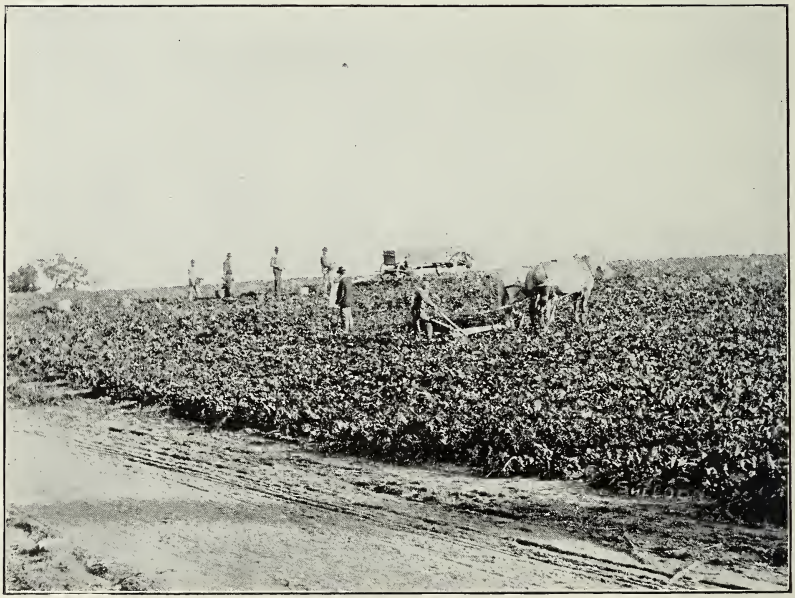
Senior Year.	No. Course.	1st Term.	2d Term.	3d Term.
Thesis	—	–	2	2
Applied Agriculture	1–6	7	7	7
Farm Buildings	10	1	1	1
Military Science	5	–	2	–
History of Agriculture.	8	–	–	2
Elective	—	7	5	3

The remaining part of the course is elective,* with the conditions that at

* All electives must be chosen by the student at the beginning of the year with the previous written approval of the Director.

SPRAYING POTATOES. C. U. BARN IN BACKGROUND.

SCORING DAIRY CATTLE.



HARVESTING SUGAR BEETS.

least one-half of the entire elective work of each year, including the thesis and applied agriculture in the senior year, must be in work given by the departments of agriculture and horticulture and in the courses in agricultural chemistry, economic entomology, origin of soils, diseases of farm animals, zootechny and silviculture.

The following list comprises the chief technically "Agricultural" electives.

	No. Course.	1st Term.	2d Term.	3d Term.
Agriculture	7	1	1	1
"	9	2	2	2
Agr., An. Industry	21		3	3
" Butter Making	22	4		
" Cheese Making	23		3	
" Poultry Keeping	27			3
Horticulture	1	3		
"	2	2	2	2
"	3	1		
"	4	2		
"	5		3	
"	6		1	
"	7		2	
"	8			2
"	9			1
"	10	1–3	1–3	1–3
Agr., Chemistry	17	1	1	1
" Chem., Analytical	7b	–	–	–
Entomology	4–5	3		3
"	6	–	–	–
" (summer).		–	–	–
Veterinary Science Diseases of Farm Animals			1	
Vet. Sci., Zootechny	37		2	
Geology, Origin of soils	32		2	
Forestry (Silviculture).	2	3	3	

Those who, at entrance, offer Latin for one of the advanced entrance subjects, must make up two years of a modern language in the University.

Students receive instruction not only in the College of Agriculture, but also in the following named Colleges and Departments: Botany, Freehand Drawing, Physics, Political Economy, Physiology, Vertebrate Zoology, Hygiene, Mathematics, French, German, and Drill and Gymnasium; *Geology*, *Veterinary Science*, *Civil Engineering and Mechanical Engineering*. The elective work is in italics.

ADVANCED OR GRADUATE WORK IN AGRICULTURAL SCIENCE.

The advanced instruction is designed to fit men for teachers and experimenters, and it may lead to the degree of Master of Science in Agriculture, and to Doctor of Philosophy. The laboratories, dairy building, farm gardens, orchards and libraries give ample

facilities for the prosecution of independent work of a high character.

A yearly fellowship of an annual value of $500 is assigned to the following group of departments: Agriculture, Horticulture and Veterinary Science. See Univ. Register page 65.

THE SPECIAL COURSE.

The Special Course is intended for young persons who cannot well spend four years in preparing themselves to become farmers and who yet wish to avail themselves of technical and practical instruction in modern scientific agriculture.

Persons who are eighteen years of age and who furnish evidence to the Director that they are able to pursue the work elected in a satisfactory manner, are admitted to the Special Course without examination. The number of hours and the courses elected must be approved by the Director. This course may extend through either one or two years. The required work as given on page 190 is designed for students studying for the degree of B. S. A. and not for Special Students.

Special students, during the time they are in the University, enjoy equal advantages in all respects with students who are studying for a degree. They are admitted by a vote of the faculty upon recommendation of the Director of the College. Applications for admission to the Special Course should be made personally or by letter to the Director.

SYNOPSIS OF COURSES.

Agriculture.—The instruction in Agriculture proper, treats of soils and their preparation; fertilizers; harvesting and marketing general and special crops; laying out and improving farms; draining and irrigation; farm buildings and fences, location, plans and construction; farm yard manures and commercial fertilizers, composition, manufacture, preservation and application; farm accounts, business customs, rights and privileges; employment and direction of laborers; farm implements and machinery, use, care and repairs; grasses and forage plants; weeds and their eradication; swine, sheep and horse husbandry, breeds and breeding, care, management, and feeding.

The practice will include setting up and running farm machinery and engines; the sharpening and repairing of small tools, drawing plans and specifications of farm buildings; mapping drains, and farm book-keeping.

Dairy Husbandry.—The class-room instruction consists of lectures upon the production of milk and its manufacture into its various products. The dairy house practice will comprise the making of butter and cheese by the most approved methods ; testing of milk as to purity and fat content ; the use and care of centrifugal separators and other creaming devices and the details of creamery and cheese factory management.

Animal Industry.—Lectures will be given on the origin and formation of the various breeds of dairy and beef cattle ; their selection and improvement ; the improvement of native cattle and formation of new breeds ; the composition of stock foods and their combinations into rations suitable for various purposes. Practice will be given in tracing and tabulating pedigrees ; judging by scale of points ; and computing rations.

Poultry Keeping.—Will include instruction in breeds and breeding ; feeding and management ; incubation, artificial and otherwise ; construction of poultry houses and their management.

Horticulture.—The instruction in Horticulture is given in twelve courses. Course 1 is designed to afford a general scientific foundation for the prosecution of all studies relating to the variation and amelioration of plants under conditions of domestication and cultivation, and it has only indirect reference to Horticultural methods and practices. Course 6 is intended for those advanced students who have had some training in systematic botany, and who desire to familiarize themselves with the complex botany of cultivated plants. Courses 4, 5, 7, 8, 9, 10, are calculated to afford the latest information and methods connected with the commercial cultivation of plants, and in all of them laboratory work and field practice are important factors.

The Experiment Station, which is a department of the University, offers opportunity for students to observe and study the investigations which are being carried on in many branches of animal and plant industry.

COURSES OF INSTRUCTION.

A. AGRICULTURE.

1. Wheat culture ; preparation of soil, seeding, insects, harvesting, marketing, farms, selection and purchase, location with regard to markets, roads, schools, society ; farm buildings, location, plans, construction, liability of contractors ; fields, shape and size ; fences and gates, construction, repairs, durability of wood ; farm and public roads, bridges and culverts : farm yard manures, composition manufacture, preservation, application ; commercial fertilizers, composition and use. Lectures. Fall term. Daily ex. Saturday, 11. Five hours, *Morrill 19.* Professor ROBERTS.

2. Inspection of roads, bridges and farm buildings. Agricultural survey

and comparison of farms; practice in fields, shop, and barns. Fall term. T., 2–5. One hour. Professor ROBERTS.

3. Farm accounts; business customs, rights and privileges, form of contracts, notes, deeds, mortgages; road laws, employment and direction of laborers; swine husbandry, breeds, feeding, management; the horse, breeds and breeding, feeding, education, care and driving; sheep husbandry, breeds and varieties, management and care, early lamb raising. Lectures. Winter term. Daily except Saturday, 11. Five hours. *Morrill 19*. Professor ROBERTS.

4. Judging and scoring horses, swine and sheep; work in shop and barns; running engines and other farm machinery. Winter term. T., 2–5. One hour. Professor ROBERTS.

5. Farm drainage, construction, material, cost and utility; history of plows and plowing; farm implements and machinery, use, care and repairs; corn, oat, barley, flax, hop, potato and tobacco culture; grasses and forage plants; silos and ensilage; weeds and their eradication. Lectures. Spring term. Daily, except Saturday, 11. Five hours. *Morrill 19*. Professor ROBERTS.

6. Practice in fields and shop, use of tools, implements and farm machinery, draining, surveys and mapping. Spring term. T., 2–5. One hour. Professor ROBERTS.

7. Seminary work for advanced students. One hour. By appointment. *Morrill 19*. Professor ROBERTS.

8. History of Agriculture. Lectures and reports. Spring. W., F., 9. Two hours. *Morrill 19*. Mr. LAUMAN.

9. German Agricultural Reading. M., S., 9. Two hours. *Morrill 17B*. Mr. LAUMAN.

10. Farm Buildings. Study and designing of farm buildings. One afternoon per week, 2–4.30. One hour. Mr. LAUMAN.

11. For students in Veterinary Science. Breeding, care and management of horses, sheep and swine. Stables, construction and sanitation. Two hours. Fall term. Professor ROBERTS.

12. For winter course students. Lectures on the leading subjects in courses 1, 3, 5, above, will be given so far as time will permit. Daily, except Saturday, 9. Five hours. *Morrill 19*. Professor ROBERTS.

13. Practice as in courses 2, 4 and 6, in sections by appointment, one afternoon for each section per week. Winter term. 2–5. Two hours. Professor ROBERTS.

Professor Roberts will be assisted by specialists in giving instruction in some of the subjects named.

B. ANIMAL INDUSTRY AND DAIRY HUSBANDRY.

21. Animal Industry. Principles of breeding, history and development, improvement and creation of dairy and beef breeds of cattle; principles of

feeding, care, selection and management of dairy and beef cattle. Winter and spring terms. Lectures. M., W., 12. Practice one hour by appointment. Three hours. *Dairy Building*. Assistant Professor WING.

22. Dairy Husbandry; milk and butter. Fall term. Lectures. T., Th., 12. Practice two afternoons by appointment. Four hours. *Dairy Building*. Assistant Professor WING.

23. Dairy Husbandry; cheese. Winter term. Practice two days per week, 10–1, by appointment. Three hours. *Dairy Building*. Assistant Professor WING.

24. Dairy Husbandry. Laboratory work on special problems. Fall and spring terms. By appointment, one to three hours. Open only to students who have had course 22. Assistant Professor WING.

25. For Winter Course Students. Animal Industry and Dairy Husbandry. Principles of breeding, feeding, and selection, care and management of dairy cattle. Daily, 8. Practice one afternoon by appointment. *Dairy Building*. Assistant Professor WING.

26. For Dairy Course Students. Winter. Lectures on milk and its products; breeding and feeding, daily, 8; lectures on subjects related to dairy husbandry, daily, 9; practice in butter and cheese making and in dairy laboratory, daily, 10–4:30. *Dairy Building*. Assistant Professor WING, Messrs. HALL, GRIFFITH and TROY, assisted by others of the faculty of the College of Agriculture.

Course 26 or the "Dairy Course" may be elected by special students in Agriculture as a full term's work for the winter term.

27. Poultry. Origin, history and classification of the domestic breeds of poultry; breeding, feeding and management; construction of buildings, incubators, and brooders. Lectures, T., Th., 12. Practice in running incubators and brooders and in judging and selecting fowls, by appointment. Two or three hours. Spring term. Assistant Professor WING.

28. For Winter Course Students. The work is the same as course 27. Lectures. T., Th., 12. Practice by appointment. Regular and special students may elect the lectures in this course instead of in course 27 if they prefer. Winter term. Assistant Professor WING.

C. HORTICULTURE.

1. Evolution of Cultivated Plants. Lectures and text-book. A discussion of the current hypotheses of organic evolution as applied to the modification of plants, particularly of those in cultivation. Open to students in all courses who have taken courses 1 and 2 in Botany. Fall. M., W., F., 10. Three hours. *Morrill 19*. Professor BAILEY.

2. German Horticultural Reading. T., Th., 9. Two hours. *Morrill 17B*. Mr. LAUMAN.

3. The Literature of Horticulture. A seminary in the literature of the cultivation of plants in various parts of the world, with reviews of periodical literature. Fall. Th., 10. One hour. *Morrill 17B*. Professor BAILEY and Mr. LAUMAN.

4. Greenhouse Construction and Management. Fall. Lecture, T., 10. *Morrill 17B*, and laboratory work, W., 2–4:30, at *Forcing-houses*. Two hours. Professor BAILEY and Mr. LAUMAN.

5. Pomology. Lectures, text-book and other class exercises upon the cultivation of fruits. Winter. M., W., F., 10. Three hours. *Morrill 19*. Professor BAILEY.

6. The Botany of Cultivated Plants. A seminary course, registration for which is by special permission. Winter. T., 10. One hour. *Morrill 17B*. Professor BAILEY.

7. Propagation of Plants. Deals with the multiplication of plants,—grafting, budding, making cuttings, pollination, etc. Winter. Lectures and text-book, Th., 12, and laboratory work, Th., 2–4:30. Two hours. *Forcing-houses*. Professor BAILEY and Mr. LAUMAN.

8. Principles of Vegetable Gardening. Lectures. Spring. M., W., 10. Two hours. *Morrill 19*. Professor BAILEY.

9. Field Lessons. Pruning and the study of orchards and plants where they grow. Garden tools. Includes the theory and practice of spraying plants. Spring. M., 2–4:30. One hour. *Forcing-houses*. Professor BAILEY and Mr. LAUMAN.

10. Handicraft. Practical work in the forcing-houses and gardens, with familiar talks. One to three hours, by appointment. Professor BAILEY, Mr. LAUMAN and Mr. HUNN.

11. Investigation incident to previous courses. For graduates and advanced students. Hours by appointment. Professor BAILEY.

12. For Winter Course Students. The general subjects presented in the foregoing courses. Winter. Lectures and text-book, M., F., 11. *Morrill —*, and practical work in sections by appointment, one afternoon, 2–4:30 for each section per week at *Forcing-houses*. Three hours. Professor BAILEY and Mr. LAUMAN.

Seminaries are conducted when requested by students, and credit may be had for such work. The Horticulturists' Club meets every Monday evening.

D. CHEMISTRY.*

16. Agricultural Chemistry. General course. Four hours. Professor CALDWELL.

17. Agricultural Chemistry. Readings from journals. For those who have had course 16. One hour. Professor CALDWELL.

7*b*. Agricultural Quantitative and Qualitative Analysis. Open only to those who have taken courses 1 or 2 and 16. Professor CALDWELL.

E. ENTOMOLOGY.†

6. Economic Entomology. Winter term. Two lectures per week. Assistant Professor SLINGERLAND.

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* All other courses in Chemistry are open to students in Agriculture.

† All other courses in Entomology are open to students in Agriculture.

7. Economic Entomology. Laboratory work. Structure and classification of insects. Winter term. Assistant MacGillivray.

F. BOTANY.*

G. VETERINARY SCIENCE.†

1. Diseases of Farm Animals. One hour. Fall term. Tuesday 10. Professor Law.

1 (a) Diseases of Farm Animals. One hour. Winter term. S., 8. Professor Law.

2. General Physiology of Domestic Animals. One hour through the year. F., 10. Assistant Professor Fish.

3. Zootechny. Two hours. Winter term. T., Th., 11. Professor W. L. Williams.

FEES AND EXPENSES.

Tuition is free to students pursuing the prescribed course in *Agriculture, and intending to complete* that course; and to *special and graduate students in agriculture* taking at least two-thirds of their entire work in the departments of agriculture, horticulture, and in the courses in agricultural chemistry and economic entomology. (See page 11).

Incidental fees are required as follows:

Post graduate students	$ 5 00	per term
Regular students, 3d and 4th years	5 00	" "
Special students	5 00	" "
For general winter course students	5 00	" "
For general winter course students in Agriculture electing practice in Dairy Husbandry	12 50	" "
For winter Dairy Course students	15 00	" "

A fee of $5, to cover expenses of graduation, degrees, etc., is charged to each person taking the baccalaureate degree. This fee must be paid at least ten days before Commencement.

The fee charged for an advanced degree is $10, and it must in all cases be paid at least ten days before Commencement.

Deposits are required in the various laboratories where work is taken, ranging from $1.50 to $10.00 per term according to the amount and nature of the work.

The expense of living in Ithaca varies from $3.50 to $5 per week for board and lodging.

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* All courses not required in the freshman year may be elected.

† Subject to rule found on page 190 of University Register.

THE WINTER COURSES IN AGRICULTURE AND DAIRY HUSBANDRY.

There are many persons who cannot spend two or more years at college, but who would receive great benefit from lectures and practice during the winter months. To meet the needs of such persons the following courses are offered. They begin the first week in January of each year and extend through one university term of eleven weeks.

Persons who are of good moral character and seventeen years of age may be admitted by the Director of the College without a formal examination, but are required to file a letter of recommendation and to satisfy the Director that their previous training has been such that they can pursue the studies elected with profit to themselves and credit to the University.

Students may elect either one of the following lines of study.

I. WINTER COURSE IN AGRICULTURE.

Prescribed work—Agriculture, 5 hours per week.
Horticulture, 2 hours per week.
Animal industry, 2 hours per week.
Agricultural Chemistry, 2 hours per week.

Two hours per day of practice in educational work in barns, dairy houses, forcing houses and laboratories.

Elective. A minimum of four hours must be taken in addition to the prescribed work from the subjects named below:

Entomology, 2 hours per week.
Botany, 2 hours per week.
Dairy Husbandry, 2 hours per week.
Poultry Keeping, 2 hours per week.
Political Economy, 1 hour per week.
Diseases of Farm Animals, 1 hour per week.

Agriculture.

The instruction in Agriculture will treat of soils and their management; cultivation, harvesting and marketing general and special crops; laying out and improving farms; drainage and irrigation; farm buildings and fences, location, plans and construction; farm yard manures and commercial fertilizers, composition, manufacture, preservation and application; farm accounts, business customs, rights and priviliges; employment and direction of laborers; farm implements and machinery, use, care and repairs,

grasses and forage plants; weeds and their eradication; swine, sheep and horse husbandry, breeds and breeding, care and management. (See Animal Industry.)

The practice will include setting up and running machinery, as binders, mowers, etc.; the sharpening and repairing of small tools, scythes, saws, spades, etc.; drawing up building plans and specifications; farm bookkeeping, etc.

Horticulture.

Instruction in Fruit-culture, with practical work in the most approved methods of pruning and training, methods of planting, determination and discussion of varieties, etc. The University plantations contain all kinds of northern fruits in great variety.

Propagation and Practical Work. This course comprises practice in the methods of propagation, from the sowing of seeds to making of cuttings and budding and grafting. In addition to the lectures instruction will be given in the horticultural laboratories, greenhouses and orchards, special attention being paid to the propagation of ornamental plants. Practice will also be given in the preparation and application of the most approved fungicides and insecticides.

Dairy Husbandry.

The class-room instruction will consist of lectures upon the production of milk and its manufacture into various products. The dairy house practice will comprise the making of butter by the most approved methods; testing of milk as to purity and fat content; the use and care of centrifugal separators and other creaming devices, and the general details of farm dairy management.

Animal Industry.

Instruction will be given on the origin and formation of the various breeds of dairy and beef cattle; their selection and improvement; the improvement of native cattle and the formation of new breeds; the composition of stock foods and their combination into rations suitable for various purposes. Practice will be given in tracing and tabulating pedigrees; judging by scale of points; computing rations.

Poultry Keeping.

Will include instruction in feeding, management and history of breeds, principles of breeding; construction of henneries, incubators and brooders, with practice in judging and feeding fowls, and in running incubators.

Entomology.

A course of two lectures per week is given on the structure and life histories of insects and on the best known methods of destroying noxious

species. A laboratory course is also given in which students are taught to classify insects.

Chemistry.

A lecture course of two hours per week is provided in Agricultural Chemistry and in the manufacture and application of commercial fertilizers with special reference to making the profession of farming intensive, scientific and practical.

Botany.

Special course of two hours on the structure of plants and their diseases is provided.

Political Economy.

Twelve lectures by appointment.

II. THE WINTER DAIRY COURSE.

This course is designed primarily to meet the needs of those butter and cheese makers who desire more thorough and comprehensive instruction, and to train those who are looking toward butter and cheese making as a profession. The instruction is largely given from the standpoint of the factory, while that in the General Course in Agriculture is given with particular reference to the needs of the farm dairy.

No more than fifty can be accomodated in the building. The class will be limited to this number and applications should be made at as early a date as practicable in order to insure admission.

The instruction is partly by lectures and recitations, but largely by actual practice in the Creamery, Cheese Factory and Dairy Laboratory, the order being about as follows :

Lectures on milk and its products, 2 hours per week.

Lectures on subjects related to dairying, 10 hours per week.

Cheese room practice, twice weekly, 4-6 hours each.

Butter room practice, twice weekly, 4–6 hours each.

Dairy laboratory practice, twice weekly, 2–4 hours each.

Problems and book-keeping, 2 hours per week.

The lectures on milk include a full discussion of the structure of the milk gland, the secretion of milk and its care, and preservation during all the processes of manufacture. The lectures are supplemented by constant references to the current dairy literature as found in periodicals and experiment station publications. These lectures are given two days per week extending through the term. On alternate days there will be given short courses of lectures (two to ten in a course) on various subjects intimately related to dairy husbandry and factory management. These include the care and management of dairy cattle, the compounding and feeding of rations, the preservation and use of farm manures and commercial fertilizers, the symptoms and treatment of the more common diseases of cows,

the outlines of dairy bacteriology, the care and management of engines and boilers, etc., etc. Most of these courses are given by special lecturers of the College of Agriculture.

The instruction in cheese making is given in the cheese room, and for this purpose the class is broken up into small squads, and each squad is put in charge of a vat, and the members actually make the cheese under the eye and hand of a competent instructor. The cheese factory room is equipped with the best modern apparatus.

The instruction in butter making is given in the same way as the instruction in cheese making. The creamery is also fully equipped with modern apparatus, and all the more important kinds of centrifugal separators will be run side by side. The use and care of these separators forms an important part of the creamery instruction, and is under the care of a thoroughly competent instructor.

The laboratory work consists largely in detecting adulterations and sophistications of milk by the means of the Babcock tester and lactometer. Opportunity is also given to those who desire for microscopical examination of milk and its products.

The instruction classed under the head of "problems and book-keeping" is given in connection with the laboratory practice, and consists of creamery and cheese factory book-keeping, keeping of patron's accounts, declaring dividends, making reports, etc., etc.

It is the single aim to make all of the instruction at once thorough and practical.

All students in the dairy course are required to provide themselves with at least two suits of workroom uniform, consisting of overalls, jacket and caps of *white* muslin, such as are worn by painters and paper hangers.

Students in this course and in the General Course in Agriculture as well, enjoy the advantages of the equipment of the other departments of the College of Agriculture. (See Equipment, p. 5.)

Upon completion of the Dairy Course the student may become an applicant for a Certificate of Proficiency in Dairy Husbandry upon the following general terms and conditions :

"Persons who have passed one full term in attendance upon the Dairy Course and have satisfactorily passed all of the examinations required of them may become candidates for a Certificate of Proficiency in Dairy Husbandry.

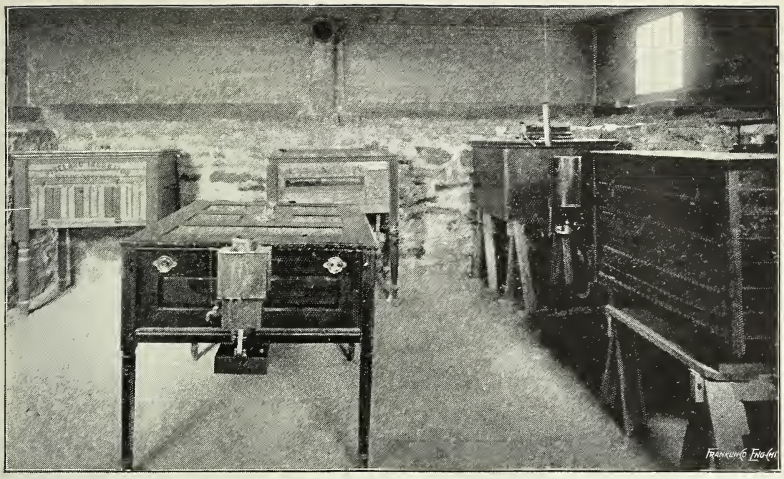
"Such candidates must spend one full season in work at an approved creamery, cheese factory or dairy. They must report regularly upon blanks furnished for the purpose, such information in regard to their factory as may be required of them, and they must hold their factory in readiness for a visit of inspection at any time.

"Upon satisfactorily completing these requirements a certificate will be granted, though under certain conditions a longer period than a single season's work may be required."

The Agricultural Experiment Station of Cornell University is a Department of the College of Agriculture. Incidentally, students may receive instruction from observing and discussing the experiments which are being carried on. The Federal Law passed March 2, 1887, briefly outlines the object of the Experiment Station in the following words: "To aid in acquiring and diffusing among the people of the United States useful and practical information on the subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science." . . . It further provides "That bulletins or reports of progress shall be published at said station at least once in three months, one copy of which shall be sent to each newspaper in the states or territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same and as far as the means of the station will permit." The entire plant of the College of Agriculture is used, as occasion demands, for conducting experiments in animal and plant growth and reproduction, and in applied, comparative and scientific research and investigations.

In pursuance of Chapter 430 of the Laws of 1899 of New York State, provision is made for "giving instruction throughout the state by means of schools, lectures and other University extension methods, or otherwise, and in conducting investigations and experiments; in discovering the diseases of plants and remedies; in ascertaining the best method of fertilization of fields, gardens and plantations; and best modes of tillage and farm management and improvement of live stock; and in printing leaflets and disseminating agricultural knowledge by means of lectures or otherwise; and in preparing and printing for free distribution the results of such investigations and experiments, and for republishing such bulletins as may be useful in the furtherance of the work, and such other information as may be deemed desirable and profitable in promoting the agricultural interests of the state."

The Agricultural Experiment Station was first organized in



INCUBATOR ROOM.

PREPARING WINTER LAMBS FOR MARKET.

DAIRY BUILDING.

1879. It was reorganized in 1888, after the passage of the Federal Law. The first appropriation by the State establishing Extension work in Agriculture was made in 1894.

The publications of the Agricultural Experiment Station include to date thirteen Annual Reports and one hundred and seventy-one bulletins. These publications are distributed free to such residents of the state as apply for them so far as the means of the station will permit.

CALENDAR.

The entrance examinations for students in the Regular Course are held in September and June. The instruction begins in the fall term, September 28, 1899; in the General Winter Course in Agriculture and the Dairy Course, January 3, 1900. Students may be excluded if not present at the beginning of the term.

For further particulars address I. P. Roberts, Dean of the College of Agriculture, Cornell University, Ithaca, N. Y.

CATALOGUE OF STUDENTS.

University Fellow.

HOMER CHARLES PRICE, (Ohio State Univ).

Graduates.

Candidates for Advanced Degrees.

ANDERSON, LEROY, B.S. 1896, M.S. in Agr. 1897.....Ithaca
Agriculture, Animal Industry.....Ph.D.
BAKER, WILLIAM CHARLES, B.S.A. 1898.....Buffalo
Horticulture, Botany.....M.S. in Agr.
CRAIG, JOHN, B.S. 1898 (Iowa Agr. Coll.).....Ithaca
Horticulture, Botany.....M.S. in Agr.
DAVIS, KARY CADMUS, B.S. 1891 (Kas. Agr. Coll.) M.S.;
1894 (same).....Ithaca
Horticulture, Botany, Entomology.....Ph.D.
FLETCHER, STEVENSON WHITCOMB, B.S. 1896 (Mass. Agr. Coll.)
M.S. in Agr. 1898.....Middleboro, Mass.
Horticulture, Botany.....Ph.D.
KNISELY, ABRAHAM LINCOLN, B.S. 1891 (Univ. of Mich.) M.S.;
1893 (same).....Geneva
Chemistry, Horticulture, Agriculture.....Ph.D.
LAUMAN, GEORGE NIEMAN, B.S.A. 1897.....Allegheny, Pa.
Horticulture, Agriculture.....A.M.

MacDonald, James Craig, B.S.A. 1897 (Toronto Univ.).....Lucknow, Ont., Canada
Horticulture, Botany..... M.S. in Agr.
Miller, Wilhelm, A.B. 1892 (Univ. of Mich.); A.M. 1897..Detroit, Mich.
Horticulture, Agriculture.....Ph.D.
Price, Homer Charles, B.S. in Agr. 1897 (Ohio State Univ.)..Newark, O
Agriculture.....M.S. in Agr.
Sheldon, Seth L., B.S.A. 1898.....Ithaca
Agriculture, Chemistry, Physics.....M.S. in Agr.
Smith, George Armstrong, B.S. in Agr. 1896 (Toronto Univ.).....Morrisburg, Ont., Canada
Agriculture, Chemistry, Geology.....Ph.D.
Stockbridge, Francis Granger, B.S. 1892 (Mass. Agr. Coll.)
Agriculture.....M.S. in Agr.
Waugh, Frank Albert, B.S. 1891 (Kas. Agr. Coll.); M.S. 1894 (same).....Burlington, Vt.
Horticulture, Botany.....Ph.D.

Seniors.

Buck, Paul Howard.....Jamestown
Cowen, Jacob Hoover, B.S.....Hotchkiss, Colo.
Foord, James Alfred, B.S.....Walpole, N. H.
King, Asa Carlton.....Trumansburg
Mulford, Walter.....Ithaca
Stephens, Albert Woodward, A.B.....Lewisburg, Pa.
Yates, Charles Halstead, A.B.....Utica

Juniors.

von Bayer, William Hector.....Ithaca
Clark, Daniel B.....Le Roy
Harlow, Leslie Cleveland.....Lockport, N. S., Canada
Hasselbring, Heinrich.....Flint, Mich.
Hunziker, Otto Fred.....Zurich, Switzerland
Lloyd, John William, B.S.....Glen Ellyn, Ill.
Martin, James Otis.....Ithaca
Wienhoeber, George William.....Chicago, Ill.

Sophomores.

Bentley, Gordon Mansir.....Great Barrington, Mass.
Gilliam, Marcus James.....Sheridan, Ind.
Harpending, Samuel Asbury.....Dundee
King, Herbert Paul.....Trumansburg
McLeod, Norman Donald.....Caledonia
Nuffort, Walter.....Newark, N. J.
Roach, Raymond J.....Akron
Roe, Herbert Spencer.....Wolcott
Scribner, Edward Emmons.....Newark, N. J.
Sweetland, Edwin Regur.....Dryden
Thro, William Crooks.....Elmira
Tiffany, John Blakeslee.....Hop Bottom, Pa.
Tooley, William Benjamin.....Raceville
Underdown, Milton Miller.....Taughannock Falls
Van Dine, Delos Lewis.....Ithaca
West, George Hutton.....Reber

Freshmen.

Bowen, Fred Jay.....Haskinville
Brinkerhoff, Arthur Freeman.....Mt. Vernon
Hosford, George Wheeler.....Mexico
Howland, Clinton Harvey.....Trumansburg
Kraatz, Charles Henry.....Akron
Lauder, Andrew Gilbert.....Binghamton
McLean, George.....Cohocton
Mather, William Alvah.....Belleville
Mohan, John Francis.....Allegheny, Pa.
Pacheco, Joviano Augusto d'Amaval.....San Carlos, Brazil
Phillips, Adams.....Thornton
Roberts, Roger Marr.....Ithaca
Ruggles, Arthur Gordon.....Acadia Mines, N. S., Canada
Schoellkopf, Henry.....Milwaukee, Wis.
Tucker, Gilbert Milligan, Jr.....Albany
Wenborne, Charles William.....Buffalo

Special Students.

Albertson, Henry Haines.....Landsdown, Pa.
Baker, Theodore.....Mt. Vernon
Bizley, Charles Elmer.....New York City
Churchill, Herbert Clinton.....Akron
Clothier, George Lemon, B.S.....Manhattan, Kas.
Crouch, Clifford Marcellus.....Cohocton
Crouch, Harry Ensign.....Cohocton
De Caskey, Virginia Louise.....Chicago, Ill.
Dunlavey, Robert Joseph, Jr.....Ithaca
Emerson, Rollins Adams, B.S.....Lincoln, Neb.
Estabrook, Harold Pitt.....Saratoga Springs
Fassett, Frederick Wheeler.....Wellsville
Fleming, Bryant.....Buffalo
Galarneau, George Martel.....Albion
Harrison, Leonard Ernest.....North Winfield
Hodges, Léonie Rose.....Newark, N. J.
Hodges, William Hamilton, B.I.....Rustan, La.
Holford, Fred De Witt.....Ithaca
Howe, Harry Squire.....Ithaca
Johnson, Fred.....Ithaca
Kennedy, Sidney Ward.....Leamington, Ont., Canada
Moore, Nathan Lewis Cass, B.S.....Shannock, R. I.
Morgan, William Montgomery.....Seaford, Del.
Perez, Paulo Emilio.....San Jose, Costa Rica
Perry, Lewis Barnum.....Englewood, Kas.
Perry, Mulford.....Whitney's Point
Pettit, Percy Henry.....Shortsville
Richie, Arthur Leeds.....Moorestown, N. J.
Salinger, Edgar.....New York City
Shaw, Arthur Sumner.....Chicago, Ill.
Sherman, Franklin, Jr.....Ithaca
Simpson, Charles Baird, B.S.....Moscow, Idaho
Sleight, David Barnes.....Poughkeepsie
Slocum, George Warren.....Milton, Pa.
Thornber, Walter Strickland, B.S.....Brookings, So. Dak.
Van Alstyne, James Edward.....Kinderhook

Wheeler, George Burton.....Morristown, Tenn.
Zimmer, Ludo Little.....Weedsport

Students in the Winter Course in Agriculture.

Barlow, Floyd Schoonmaker.....South Onondaga
Bostwick, George Hall.....Northville, Pa.
Bovingdon, Sidney.....Camptown, Pa,
Bower, Ray Blakly.....Genoa
Briggs, Floyd F.....Lima
Briggs, Roy E.....Lima
Cowles, James Samuel.....Otisco
Dean, Daniel Jefferson.....Nichols
Dudley, Nathan Chidsey.....No. Guilford, Conn.
English, Burt.....Van Etten
Freemyre, Frank.....Breakabeen
French, Homer Beals.....Ellicottville
Gardner, Samuel Brown.....Ithaca
Garrett, Charles Jennings.....Syracuse
Helmer, Fred Ames.....Jordanville
Howard, William Burr, Jr.....Ithaca
Howk, Charles Bradford.....So. New Haven
Hungerford, Roy Egan.....Ithaca
Jack, Norman Emerson.....Chauteauguay Bay, Que.
Jones, Homer Hartwell.....Homer
Killeen, James Napoleon.....Skead's Mills, Canada
Koch, John.....Southold
LaMont, George Burkey.....Albion
Livingston, Peter.....Sharon
Mabee, Eddie James.....West Candor
Markham, Winfield Lyman.....Ellington
Martin, Paul.....East Rush
Miller, Gage Milton.....Chili Center
Osterhout, Emory.....Cobleskill
Powell, Erford Henry.....Plymouth
Reinhold, Ralph Warner.....Millbrook, Conn.
Roach, Horton Lovering.....Akron
Roe, Alonzo LaVerne.....Plymouth
Salmon, William Case.....Peconic
Seeley, Fred.....Spencer
Smith, William Thomas.....Princeville, Va.
Van Order, Arthur H.....Jacksonville
Wallace, Arthur Percival.....Morristown
Wiley, George Wesley.....Calhoun, Ala.

Students in the Dairy Course.

Baker, John Byron.....Ithaca
Barnes, Edgar Arnold.....Smithville Flats
Biglow, Cyrus Murray.....Champlain
Bull, Daniel Mould.....Bullville
Burke, Frank Eugene.....Church
Cockburn, Frank Melvin.....Silver Creek
Couper, Henry Joseph.....Morristown
Day, Henry Simeon.....Simpson
Estabrook, Harold Pitt.....Saratoga Springs
Fundis, Carl James.....Richford

Greene, William Arthur.....Warsaw
Harvey, Thomas C.....Potsdam
Hodge, James Allen.....Spragueville
Hudson, Frank Erastus.....Saratoga Springs
Jacobs, Frank Leonard.....Jasper
Jones, William Mouldwin.....Moravia
Keyes, Willie Everett.....Richville
Leonardson, Calvin A.....Fonda
Lewis, Lewis Grant.....Burr's Mills
Longshore, Herbert.....Canton
McCoy, John.....Port Chester
McDermott, James Henry.....North Bridgewater
Martin, Ervin Seeley.....Hermon
Maynard, Dexter Parmelee.....Erieville
Miner, Edward Linn.....Hubbardsville
Mudge, Ernest Jesse.....Oxford
Pattat, John.....Little France
Potter, Herbert.....Collins Center
Raymond, Fred Lewillia.....Denmark
Rice, William Burdell.....Ivarea, Pa.
Rickmyer, Walter Ray.....Rome
Riggs, Harry Whiting.....Albany
Rogers, Samuel R.....Sidney Center
Rowley, Albert Miles.....Gouverneur
Silvernail, Frank Delapheyette.....Upper Lisle
Smith, Floyd Jones.....Buffalo
Smith, Wade Sheridan.....Ivarea, Pa.
Sprague, Guy Arthur.....Ames
Thomas, Brayton Wallace.....Richville
Thorne, William.....Stamford
Tuttle, Floyd.....Hubbardsville
Vance, William Henry.....Brockville, Canada
Vanderbilt, Levi Albert.....Geneva
VanDine, William Homer.....Ithaca
VanDusen, Levi Bennett.....Stamford
VanOrder, Reuben Harrison.....So. Danby
Verrier, Edmund.....Homer
Vrooman, Glenn Lyell.....No. Harpersfield
Winchell, Seymour, Jr.....Greene
Wolf, Alfred Joseph.....Brooklyn

Students in the Summer Course in Nature Study.

Ayer, Jennie James.....Brooklyn
Barrett, Mary Ford.....Victory Mills
Bartlett, Millie Horton.....Brooklyn
Barton, Anna Leslie.....New York City
Beach, Channing Elias.....Buffalo
Beardsley, Lewis Aurelius, A.B.....Ithaca
Besio, Josephine Mae.....Jamaica
Blossom, Margaret.....Brooklyn
Bostwick, Helen Mar.....Brooklyn
Bruckmann, Louisa, PdB. PdM.....New York City
Bullard, Clara May.....Schuylerville
Cairns, Anna Bell.....Lansingburg
Cavarly, Alice Shipman.....Irvington

Coleman, Clatina.....New York City
Cooper, Mary Jane, A.M.....Johnstown, Pa.
Corcoran, Tressa Maria.....Dayton, O.
Cudlipp, Hattie Louise.....New York City
Curran, Mary Alice.....New York City
Dawson, Ella Maria.....New York City
Eadie, Emma Trevor.....Ithaca
Edsall, Alice Mary.....Ithaca
Feuring, Anna Sophie.....New York City
Feuring, Elise Martha.....New York City
Fox, Katharyn Clara.....New York City
Gallagher, Mary Agnes.....Ithaca
Gibson, Anne Grace.....New York City
Gillespy, Frances Bliss.....Lansingburg
Goldsmith, Evelyn May.....New York City
Goodrich, Annie Mason, A.B.....Paterson, N. J.
Goodrich, Charlotte, A.B.....Albany
Goodrich, Charles Landon, A.B.....Hampton, Va.
Gordon, Eugenia Staples.....New Rochelle
Graham, Margaret Jane.....Albany
Guirey, Mary Elizabeth, Pd M.....New York City
Guss, Roland Wilkins. A.B., A.M.....North Adams, Mass.
Hall, Eliza Phillips.....Dayton, O.
Hallock, Inez Joanna.....New Brighton
Hamman, Adelaide.....Yonkers
Harris, Preston James.....Buffalo
Hayes, Maud Ellen.....New York City
Hazen, Mary Clark.....Yonkers
Hemingway, Helen Laura.....Yonkers
Heydt, Anna.....New York City
Hill, Cora Marie.....Yonkers
Hinman, Helen Josephine.....Columbus, O.
Humphrey, Bercy Anna.....Trenton, N. J.
Hunt, Leigh Richmond, A.B., Ph.D.....Corning
Hurd, Mary Belle.....Albany
Jackson, Daisy Lee.....Washington, D. C.
Jones, Olivia Mary.....New York City
Kappes, Lillian Frances.....New York Ctty
Kelly, Sarah Marie.....Ithaca
Ketchum, Arabella.....New York City
Ketchum, Elvin Sydney.....Lockwood
Komman, Elise Wilhelmine, Pd.M.....New York City
Legget, Katharine Dick.....Flushing
Lindsey, Maude.....Lockport
McFalls, Alida.....Gouverneur
McGowan, Anna Teresa.....New York City
Malone, Rose Veronica.....New York City
Merritt, Grace Louise.....New York City
Miller, Kate Reed.....Brooklyn
Miller, Louise.....Detroit, Mich.
Minor, Katherine Brown.....Yonkers
Mintz, Fannie Sankston.....Ithaca
Moore, Clara Boughton.....Troy
Moore, Lucy Peck.....Troy
Moores, Grace.....Troy
Moorehead, May Nickels.....New York City

Morey, John Ross, A. B. A. M. ..... Burnt Hills
Myers, Olive Ann ..... Salamanca
Ney, Frances Hume ..... Buffalo
Nichols, Charles Edward ..... Mt. Vernon
Palmer, Luella Angelina ..... New York City
Parkinson, Sara Brooke ..... Dayton, O.
Parsons, Marion ..... Sing Sing
Peck, Gertrude Baird ..... Mt. Vernon
Peck, Helen Halstead Constant ..... Pelham Manor
Pietsch, Nellie Youngs ..... New York City
Potter, Jennie Louise ..... Jamaica
Rehorn, Eunice Dibble ..... New York City
Roberts, Fannie Elizabeth ..... Yonkers
Robinson, Helen Minnie ..... McLean
Roche, Mary Lillian ..... Ithaca
Rodgers, Minna Hamilton ..... Ithaca
Roe, Christina Logan ..... New York City
Ryan, John Patrick ..... Ithaca
Ryan, Margaret Jane ..... Medina
Samain, Helen Frances ..... Rochester
Schussler, Amy ..... New York City
Schweizer, Isabella ..... New York City
Seelman, Caroline Ruth ..... Brooklyn
Seelman, Hannah Elizabeth A. B. ..... Brooklyn
Seymour, Emily Ketchum ..... Buffalo
Shoemaker, Cornelia Jenney, B. L. ..... New York City
Shutes, Elizabeth Weed ..... New York City
Sims, Agnes Anderson ..... Troy
Skinner, Lucy Purchase ..... Brooklyn
Snyder, George B. McClellan, B. S. ..... Nina
Thayer, Helen Gertrude ..... New York City
Tumey, Kate Josephine ..... New York City
Wagner, Dorothy Augusta ..... Yonkers
Walker, Sarah Williams ..... Cooperstown
Watkins, Sarah Raynor, Pd. M. ..... New York City
Welch, Willis Yardley ..... Oswego
Wilcox, Walter Homer ..... St. Louis, Mo.
Wolff, Fannie Emma ..... New York City
Woodward, Florence ..... Fredonia
Wright, Adelaide Victoria ..... New York City

CORNELL UNIVERSITY—COLLEGE OF AGRICULTURE.

DAIRY COURSE.

APPLICATION FOR ADMISSION.

Name of Applicant, ... *Date of Birth,* .....

Name and address of parent or guardian, ...

P. O., ... *County,* ..... *State,* .....

PREVIOUS SCHOOL TRAINING :

Name of School, ... *No. of terms in attendance,* .....

STUDIES OTHER THAN COMMON BRANCHES PURSUED.

.....

Do you use tobacco? ..... *Give experience if any in factory work,* .....

REFERENCE :—I am personally acquainted with the above applicant and believe ..... *to be of good moral character, industrious and studious.*

.....

Position, ...

References should preferably be your teacher, pastor, or some public officer in the community.
Applicants for admission to *Winter Course in Agriculture* will fill out blank on other side. (OVER.)

CORNELL UNIVERSITY—COLLEGE OF AGRICULTURE.

WINTER COURSE IN AGRICULTURE.

APPLICATION FOR ADMISSION.

Name of Applicant, ... *Date of Birth,* .....

Name and Address of parent or guardian, ...

P. O., ... *County,* ..... *State,* .....

PREVIOUS SCHOOL TRAINING:

Name of School, ... *No. of terms in attendance,* .....

STUDIES OTHER THAN COMMON BRANCHES PURSUED.

.....

.....

REFERENCE:—I am personally acquainted with the above applicant and believe ..... *to be of good moral character, industrious and studious.*

.....

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